

SOLAR CONTROLLER

User-Manual



Model No.: CLL12/2410LI-80W

1. DESCRIPTION

CLL12/2410LI-80W is solar light controller for lithium battery. This solar light controller is integrated with LED driver, so the led light can't have LED driver. And this also can save the cost of Led driver. Adopting advanced circuit design and intelligent driving program, this controller has high charging/discharging efficiency and stability. The output current can be adjusted for 4 time frames. With fully sealed waterproof design and wide output voltage, the product applies to most LED solar street lights.

2. FEATURES

- 1) Adopt the integrating technology of control and LED driver, and save the cost of the LED drive power supply for users.
- 2) Adopting advanced and intelligent circuit design, this controller still can work even after the lithium battery enters under-voltage protection state.
- 3) Designed for lithium battery, input volt is 9V-32V and automatically recognized.

- 4) Max output voltage reaches 70V. Most values, such as over-charging protection, over-discharging protection and exit over-charging protection are adjustable, which matches lithium battery's characteristics highly.
- 5) With the function of 4 time frames power regulation, Users can dim LED lamps' output power.
- 6) The controller adopts fully sealed waterproof design. The IP grade reaches IP67. The controller can be used in the water.
- 7) This controller can withstand from -35℃ to 60℃ high and low temperature, so it can adapt to extreme temperature.
- 8) This controller can drop load's power automatically according to the left capacity of battery, and this feature helps the solar street light work for more days.
- 9) Automatic time controlling at dusk and dawn.

3. INSTALLATION

- 1) Connect the lamp to the controller;
- 2) Connect the battery to the controller. At the moment, the IDLE indicator is on. After 30 seconds, the lamp is turned on;
- 3) Connect the solar panel to the controller. If at daytime, after 70 seconds, the CHARGE indicator is on and the lamp will be turned off.

4. NOTES

- 1) The controller is wide voltage output. Before using the controller, make sure the LED light can match the controller.
- 2) Please connecting wires in order. Wrong wire connection lead to system's misjudgment and controller's damage.

5. INDICATORS

State	Idle (green)	Charge (green)	Discharge (red)	Remarks
Idle	on	off	off	Normal
Charge	off	on	off	Normal

Discharge	off	off	on	Normal
finish discharging	on	on	off	Normal
output end over power protection	off	on	Slow flicker	Abnormal. Check whether the output power is more than rated power
Low voltage of Battery	on	on	Slow flicker	Normal
output end open circuit protection	on	off	Fast flicker	Abnormal. please connect load first, and then connect battery
output end over voltage protection	on	on	Fast flicker	Abnormal. Load voltage is higher than rated voltage.
Abnormal input voltage protection	on	Fast flicker	off	Abnormal. Check whether battery's voltage is 12V or 24V
Over current protection of Charging	off	Slow flicker	off	Abnormal. Check whether solar panel is out of the range of this model.
unactivated	Fast flicker	Fast flicker	Fast flicker	Abnormal. Model is wrong. Please contact the manufacturer.
1) No flicker means OK; 2) Slow flicker (2 seconds) means recoverable error. There is no need to solve the error manually; 3) Fast flicker (0.5 seconds) means unrecoverable error. The error need to be solved manually.				

6. SPECIFICATIONS

Model	CLL12/2410LI-80W
Input voltage	DC 9V-32V auto
Output voltage	Battery's peak volt plus 1V~70V
Self consumption	10mA
Max. charging current	10A
Max. output power	80W
Max. conversion efficiency	96%
Output current error	≤3%

Output current	150mA - 2800mA (programmable)
Max. solar panel	170WP (12V system) / 340WP (24V system)
Max. solar panel voltage	DC55V
Working temperature	-35℃ ~ 60℃
Charging mode	PWM mode
Working mode	Light controlling, time controlling, output current adjustable in 4 time intervals
Over-charging protection voltage	DC 9V-32V adjustable
Under voltage protection	DC 9V-32V adjustable
Exit under voltage protection	DC 9V-32V adjustable
Weight	250g
Size	97mm×76mm×23mm
Battery type	Lithium

7. APPLICATION

12V system: Solar LED light with max 50W LED light (LED should be 15V-70V)

24V system: Solar LED light with max 70W LED light (LED should be 30V-70V. But when LED is 30V-33V, LED can be 80W)

8. SAFETY AND PROTECTION

Lightning protection, overcharge and over discharge protection, reverse polarity protection, reverse current protection at night, output end protection(open circuit, over current, over voltage, over power), and over temperature protection.

9. WARRANTY

Two years since the date of exfactory